

CONSUMPTION OF INDIANA SPORT CAUGHT FISH

Mail Survey of Resident License Holders

Technical Report 99-D-HDFW-1

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Abstract

Fish consumption has been identified as an important issue based on potential health risks to angler populations. A 1997 sport caught fish consumption study, using a multiple phase, mail survey among licensed anglers in Indiana, revealed that consumption rates were relatively close to rates observed in other Great Lakes states.

Respondents indicated their consumption patterns during a three month recall, as well as fishing rates, species of fish consumed, awareness of advisory warnings, and associated behaviors related to deciding whether or not and how to eat sport caught fish. Average meal size among respondents was 9.3 ounces per meal. Consumers indicated that on average they ate between one and two meals per month. Among active consumers, those currently eating sport caught fish, the average consumption rate was 19.8 grams per day. For active combined with potential consumers, individuals who eat fish at other times of the year, the consumption rate was 16.4 grams per day.

Executive Summary

Fish consumption patterns among Indiana residents were studied using a statewide angler survey. Data provided evidence of average consumption rates among different groups of anglers. Consumers were defined as either active consumers, who were actively engaged in consuming sport fish meals, or potential consumers, who indicated that they eat fish during other times of the year. The average consumption rate for active consumers was 19.8 GPD and for active and potential consumers combined was 16.4 GPD. A majority (72%) of survey respondents were active or potential consumers of Indiana sport caught fish.

Average consumption rates reflect small differences across northern, central, and southern state geographic regions. Anglers living in southern Indiana showed the highest average consumption rate of 20.1 GPD for all consumers, followed by northern, 16.4 GPD, and central anglers, 14.4 GPD, respectively.

Consumption rates varied slightly by preferred fishing locations. Anglers indicated their first and second choice for fishing sites, and consumption rates were analyzed for angler groups. Primary users of Lake Michigan had the highest average consumption rate of 22.2 GPD, close to that of primary users of Large Rivers, 21.5 GPD. The lowest consumption rate among primary users of a fishing location occurred among anglers choosing Large Lakes and Reservoirs (16.2 GPD).

Combining anglers by primary and secondary use of fishing locations produced different results, but with small variation between groups. Large River anglers had the highest average rate of 25.9 GPD, followed by 21.3 GPD for other rivers and streams, 19.7 GPD for Lake Michigan, 18.4 for Large Lakes and Reservoirs, and 18.2 for small lakes and ponds.

A consumption rate of 16.4 GPD found for Indiana is within a range of values noted for the Great Lakes area, from Michigan, with 14.5 GPD, to Ontario, at 22.5 GPD. Results provide Indiana with baseline fish consumption data for use in water quality planning and ongoing research among anglers.

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An Examination of Fish Consumption by Indiana Recreational Anglers: Mail Survey of License Holders

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INTRODUCTION

Fish consumption among Indiana residents is an important issue. Anglers often vary in their behaviors, which can translate into different rates of consuming fish, preferences for specific fish species, consumption advisory awareness, use of information, locations fished, and fishing involvement. The preceding indicators were examined as they relate to sport caught fish consumption among Indiana anglers.

METHODOLOGY

Sport caught fish consumption among licensed anglers was assessed using a mail survey. Following a method prescribed by Salant and Dillman (1994), an initial letter and questionnaire were sent to a sample of 4529 Indiana license holders during the summer and fall months of 1997. A postcard reminder was sent within a week of the first mailing. Approximately three weeks later, a follow-up mailing was sent to non-respondents, with a replacement questionnaire.

Sample size was based on a proportion of 1994 licenses sold in Indiana. A random sample was drawn from all possible license books returned to the Indiana Department of Natural Resources, Division of Fish and Wildlife, creating a representative list of anglers from throughout the state. A proportion of fishing licenses and hunting/fishing licenses were sampled to represent the Northern, Central, and Southern regions of Indiana. Data from the IDNR Division of Fish and Wildlife record 540,386 residents of Indiana as licensed anglers in 1997. A 1996 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation by the U.S. Fish and Wildlife Service indicated that 854,000 Indiana residents age 16 years and older went fishing. The difference between the two sources represents a proportion of nonlicensed anglers in the state, for example those younger than 17 years old, retirees, and veterans.

The participants of the 1997 Indiana fish consumption mail survey were ages 18 and older based on Purdue University Human Subjects guidelines, which directs research. A copy of the approved study application is included as an appendix VIII. In addition, only licensed anglers

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participated in the mail survey. Non-licensed anglers were contacted in a statewide on-site fish consumption survey conducted in 1998.

License holders selected for the study were divided into three time cohorts for mailing questionnaires: a summer group fishing June through August, a summer-fall group fishing August through October, and a fall group fishing September through November 1997. The recall periods were based on the date of receipt of the initial survey, which asked respondents to note their fishing activity from three months prior to receipt of the questionnaire.

Sample Size and Response Rate

An original goal of 4500 anglers was established as the desired sample size. Addresses were obtained from license books provided by the Indiana Department of Natural Resources, Division of Fish and Wildlife. The actual sample size was 4529 anglers. Of the original sample of anglers, 369 had undeliverable addresses. Of the 4160 anglers who had deliverable addresses, 1765 returned questionnaires. Of those who returned questionnaires, 1743 were valid questionnaires for data entry. The remainder of those who returned questionnaires, 22 of them (1.2%), did not contribute usable data because they refused (1), were under 18 years of age (5), were deceased (1), undeliverable (1), or do not/did not eat fish nor go fishing during the study period (14). Thus, the one refusal qualifies as a non-response, while the remainder contribute to the undeliverable/unusable category. An effective response rate of 42% was obtained for the mail survey.

Three Month Cohorts

Three separate waves of anglers were contacted with initial mailings: one was contacted in mid-August, one at the end of September and one in mid-November. Each group was asked to recall their fish consumption for the past three months based on the date of receipt of the mailing. Respondents were asked to record the date that they completed the questionnaire, so that different recall periods would be available for analysis. Dates of reminder mailings ranged from early September to early December. Initial and reminder mailings for each time cohort allowed for distinct recall periods with a small amount of overlapping time frames. Dates of questionnaire completion and percentages of respondents were as follows: Mid-August – End of September (33.6%), End of September – Mid-November (33.8%), and Mid-November – February (32.6%).

In summary, first mailings allowed for three month recall periods ranging from “June through August” to “September through November” with several overlaps in months possible between the periods, given the date that a respondent completed the questionnaire. With reminder mailings and the dates that later respondents completed the questionnaires, three month

recall periods extended through January 1998. When a date was missing from the questionnaire, a date code was assigned according to the initial mailing. Thus, at least six months of data, in separate three month recall periods, were collected for Indiana resident angler participation in the summer and fall of 1997. The data represent summer, summer-fall, and fall-winter anglers.

Limitations of the Study

Anglers were sampled during the summer and fall months. The earliest and latest response dates created a range of overlapping three month recall periods from mid-August to mid-February (8/13/97 – 2/12/98). Thus, recall periods extended from the summer through the end of fall and early winter. Fishing activity was not sampled in the spring or winter months. Therefore, the values for fish consumption represent the average for summer and fall of 1997 to achieve a gram per day value. Future research regarding sport caught fish consumption among Indiana anglers during the winter and spring would add to the existing knowledge of fish consumption patterns in the state.

An additional limitation of the study was that only sport caught fish consumption was measured among anglers. Other consumption studies have examined total fish consumption, for example, restaurant and store-bought fish as well as sport caught fish (West et al. 1993). The Indiana study focused on sport fish caught for consumption by recreational anglers.

Northern, Central and Southern Regions

Respondents represented regions of the state as follows: North (37.4%), Central (42.9%), and South (19.7%). Northern counties were as follows: Adams, Allen, Benton, Cass, Dekalb, Elkhart, Fulton, Huntington, Jasper, Kosciusko, LaGrange, Lake, LaPorte, Marshall, Miami, Newton, Noble, Porter, Pulaski, St. Joseph, Starke, Steuben, Wabash, Wells, White, and Whitley (N = 652).

Central counties included: Bartholomew, Blackford, Boone, Brown, Carroll, Clay, Clinton, Decatur, Delaware, Fayette, Fountain, Franklin, Grant, Hamilton, Hancock, Hendricks, Henry, Howard, Jay, Johnson, Madison, Marion, Monroe, Montgomery, Morgan, Owen, Parke, Putnam, Randolph, Rush, Shelby, Tippecanoe, Tipton, Union, Vermillion, Vigo, Warren, and Wayne (N = 747).

Southern counties included the following: Clark, Crawford, Davies, Dearborn, Dubois, Floyd, Gibson, Greene, Harrison, Jackson, Jefferson, Jennings, Knox, Lawrence, Martin, Ohio, Orange, Perry, Pike, Posey, Ripley, Scott, Spencer, Sullivan, Switzerland, Vanderburgh, Warrick, and Washington (N = 344).

ANGLER PORTIONS

Portion Size

Portion size was obtained by asking anglers to indicate a meal size in reference to photographs of 6, 8, 10, and 12 ounce portions. Approximately 3/4 of the anglers responded to the question. Some of those responding noted a portion size of zero (7.5%), indicating that they did not eat fish.

The mean meal portion size was 9.3 ounces for respondents consuming fish. The distribution was approximately bimodal, and the most frequent portions were 8 oz. (20.5%) and 12 oz. (21.3%), with a median of 10 oz. For those anglers indicating a typical meal portion (approximately 72% of respondents), portion sizes and percentages are shown in “Table 1. Portion Sizes Indicated for Sport Caught Fish Meals.”

Table 1. Portion Sizes Indicated for Sport Caught Fish Meals

Portion	Percentages of Respondents Eating Fish (%)
“less than 4 oz.”	5.8
“4 oz. or ¼ lb.”	7.7
“6 oz.”	13.5
“8 oz. or ½ lb.”	20.5
“10 oz.”	16.9
“12 oz. or ¾ lb.”	21.3
“14 oz.”	3.6
“16 oz. or 1 lb.”	10.7

Mean meal portion size = 9.3 ounces

Cohorts and Portion Data

Dividing respondents into three cohorts allows for a comparison of portion data within different recall periods. If few differences exist, then the cohorts can be examined simultaneously as one large data set. The average portion size for summer anglers (June-August) was 9.5 oz., for summer-fall anglers (July-September) was 9.3 oz., and for fall-winter (September-November) anglers was 9.2 oz. Each portion size differed slightly, but for the average, three cohorts are within 3% of each other. The average portion size for a single meal serving is 9.3 ounces.

Meal Frequency

Meal frequency was obtained by asking anglers the following question: “In the last three months, how often did you eat Indiana sport caught fish?” Approximately 39% of respondents had not eaten any fish in the last three months from the date they completed the questionnaire. As noted in Table 2, for those who did eat fish, 35.9% ate less than one meal/month, 24.7% ate one meal a month, 26.0% ate 2-3 meals/month, 8.5% ate one meal/week, 4.7% ate 2-4 meals/week, and less than 1% (0.2%) ate 5-7 meals/week. The average response (mean) was between one meal/month and 2-3 meals/month. The median was one meal/month, while the mode was “less than one meal/month.”

Table 2. Meal Frequency for Active Consumers (60% of Respondents)

Meal Frequency	Percentages of Respondents
Less than one meal/month	35.9
One meal/month	24.7
2-3 meals/month	26.0
One meal/week	8.5
2-4 meals/week	4.7
5-7 meals/week	0.2

Cohorts and Meal Frequency Data

Average meal frequencies for the three time cohorts were comparable. The summer, summer-fall, and fall angler groups ate sport caught fish slightly more frequently than one/meal a month. The data demonstrate an average meal frequency of at least one meal/month which can be used to calculate a consumption rate of GPD, mean gram per day.

Portion Size and Meal Frequency among Respondents

It was possible for respondents to note a portion size for a typical meal without having eaten an actual meal in the recall period of the past three months. However, to calculate GPD, both portion size and meal frequency are required. If a respondent lacked meal frequency data, no GPD calculation was possible. However, if they indicated a portion size for a typical meal, they are assumed to be potential consumers of sport caught fish. If a respondent noted meal frequency but not portion size, the mean portion size was substituted for missing data. Mean gram per day was obtained per individual with the following calculation:

$$C_{\text{daily}} = \text{portion (oz/meal)} \times (\text{meals/month}) \times (1 \text{ month}/30 \text{ days}) \times (28.35 \text{ grams/oz}) = \text{GPD}$$

Daily Consumption Rate: GPD for All Respondents

The study of licensed angler behavior from June through December represents at least six months of data for 1997. From these data, an extrapolation is made for yearly consumption. A limitation of this procedure is that data were not collected for the spring of 1997 when individuals could have been fishing and consuming catch. Daily consumption in grams per day was calculated per angler. Each angler has a unique value from which a mean value for all respondents is obtained. Gram per day is calculated only for those anglers indicating they had eaten fish in the last three months. Mean values and percentiles are presented in the next table.

Table 3. Grams per Day for All Respondents

Consumption Rate		Active Consumers	Active and Potential Consumers
Mean gpd:		19.8	16.4
Median gpd:		9.5	7.6
Mode gpd:		5.7	0
Percentiles	50 th :	9.5	7.6
	80 th :	28.4	23.6
	90 th :	37.8	37.8
	95 th :	60.5	60.5
	99 th :	181.4	181.4
		N = 1045	N = 1261
Active Consumers: 60% of respondents			
Potential and Active Consumers: 72% of respondents			

STATE REGIONS

GPD data can be compared by region. The northern region showed the following results:

Table 4. Northern Region and GPD Data

Consumption Rate		Active Consumers	Active and Potential Consumers
Mean gpd:		19.4	16.4
Median gpd:		11.3	7.6
Mode gpd:		5.7	0
Percentiles	50 th :	11.3	7.6
	80 th :	28.4	23.6
	90 th :	37.8	37.8
	95 th :	60.5	60.5
	99 th :	178.7	161.9
		N = 411	N = 485
Northern Active Consumers in GPD Calculation: 24% of respondents			
Northern Active and Potential Consumers: 28% of respondents			

The central region displayed the following results:

Table 5. Central Region and GPD Data

Consumption Rate		Active Consumers	Active and Potential Consumers
Mean gpd:		18.2	14.4
Median gpd:		7.6	5.7
Mode gpd:		3.8	0
Percentiles	50 th :	7.6	5.7
	80 th :	28.4	22.7
	90 th :	37.8	30.2
	95 th :	52.9	45.4
	99 th :	181.2	158.8
		N = 400	N = 504
Central Active Consumers in GPD Calculation: 23% of respondents			
Central Active and Potential Consumers: 29% of respondents			

The southern region displayed the following results:

Table 6. Southern Region and GPD Data

Consumption Rate		Active Consumers	Active and Potential Consumers
Mean gpd:		23.4	20.1
Median gpd:		11.3	7.6
Mode gpd:		5.7	0
Percentiles	50 th :	11.3	7.6
	80 th :	30.2	28.4
	90 th :	49.1	45.4
	95 th :	96.4	68.0
	99 th :	181.4	181.4
		N = 234	N = 272
Southern Active Consumers in GPD Calculation: 13% of respondents			
Southern Active and Potential Consumers: 16% of respondents			

Regional data suggest that southern anglers are consuming more fish than either central or northern anglers. Northern anglers are consuming more sport caught fish than central anglers.

Table 7. State Regions Summary

	Active Consumers	Active-Potential Consumers	Active-Potential Consumers Percentiles				
	Mean gpd	Mean gpd	50 th	80 th	90 th	95 th	99 th
North	19.4	16.4	7.6	23.6	37.8	60.5	161.9
Central	18.2	14.4	5.7	22.7	30.2	45.4	158.8
South	23.4	20.1	7.6	28.4	45.4	68.0	181.4

LOCATIONS FISHED IN INDIANA

Consumption Rate among “Lake Michigan” Anglers

Respondents were also asked the following: “There are several fishing locations in Indiana. In the past three months, which of the following areas did you fish most frequently in Indiana? Put (1) by the most frequent, (2) for 2nd most frequent, (3) for 3rd, etc., through 6 for as many areas as you fished.”

Data for anglers fishing Lake Michigan/tributaries as their 1st or most frequent location are as follows:

Table 8. GPD for Primary Users of “Lake Michigan”

Consumption Rate		Active Consumers	Potential and Active Consumers
Mean gpd:		23.8	22.2
Median gpd:		13.2	11.3
Mode gpd:		5.7	5.7
Percentiles	50 th :	13.2	11.3
	80 th :	28.4	28.4
	90 th :	56.7	54.4
	95 th :	119.1	108.9
	99 th :	181.4	181.44
		N = 44	N = 47
Active Consumers, Lake Michigan as 1 st choice: 2.5% of respondents			
Active and Potential Consumers: 2.7% of respondents			

Other anglers fished Lake Michigan/tributaries as their 1st or 2nd most frequent locations and had the following consumption rates:

Table 9. GPD for Primary and Secondary Users of “Lake Michigan”

Consumption Rate		Active Consumers	Potential and Active Consumers
Mean gpd:		20.7	19.7
Median gpd:		11.3	11.3
Mode gpd:		5.7	5.7
Percentiles	50 th :	11.3	11.3
	80 th :	24.6	23.6
	90 th :	38.6	37.8
	95 th :	70.3	66.9
	99 th :	181.4	181.4
		N = 78	N = 82
Active Consumers, Lake Michigan as 1 st or 2 nd choice: 4.5% of respondents			
Active and Potential Consumers, Lake Michigan as 1 st or 2 nd choice: 4.7% of respondents			

Consumption Rate among “Large River” Anglers

Data for anglers fishing the Ohio, Wabash and/or White River as their 1st or most frequent location category are as follows:

Table 10. GPD for Primary Users of “Large Rivers” (Ohio, Wabash and/or White River).

Consumption Rate		Active Consumers	Potential and Active Consumers
Mean gpd:		24.1	21.5
Median gpd:		11.3	9.5
Mode gpd:		37.8	0
Percentiles	50 th :	11.3	9.5
	80 th :	37.8	36.9
	90 th :	52.9	43.8
	95 th :	104.3	95.3
	99 th :	181.4	181.4
		N = 67	N = 75
Active Consumers, Large Rivers as 1 st choice: 3.8% of respondents			
Active and Potential Consumers, Large Rivers as 1 st choice: 4.3% of respondents			

Data for anglers fishing Large Rivers (The Ohio, Wabash and/or White River) as their 1st or 2nd most frequent locations are as follows:

Table 11. GPD for Primary or Secondary Users of “Large Rivers”

Consumption Rate		Active Consumers	Active and Potential Consumers
Mean gpd:		28.4	25.9
Median gpd:		14.2	11.3
Mode gpd:		5.7	0
Percentiles	50 th :	14.2	11.3
	80 th :	37.8	37.8
	90 th :	60.5	60.5
	95 th :	113.4	104.3
	99 th :	240.4	228.6
		N = 134	N = 147
Active Consumers, Ohio, Wabash, and/or White Rivers as 1 st or 2 nd choice: 7.7% of respondents			
Active and Potential Consumers, Three Rivers as 1 st or 2 nd choice: 8.4% of respondents			

Consumption Rate among “Other River” Anglers

Anglers using “all other rivers and streams” (i.e. Tippecanoe, Big Blue, Whitewater, Wildcat Creek, etc.), show the following results:

Table 12. GPD for Primary Users of “All Other Rivers and Streams”

Consumption Rate		Active Consumers	Potential and Active Consumers
Mean gpd:		20.0	18.0
Median gpd:		10.4	9.5
Mode gpd:		7.6	7.6
Percentiles	50 th :	10.4	9.5
	80 th :	26.5	23.6
	90 th :	40.1	37.8
	95 th :	71.8	60.5
	99 th :	181.4	181.4
		N = 56	N = 62
Active Consumers, All Other Rivers as 1 st choice: 3.2% of respondents			
Active and Potential Consumers, All Other Rivers as 1 st Choice: 3.6% of respondents			

The respondent data for primary and secondary users of “all other rivers and streams” are as follows:

Table 13. GPD for Primary and Secondary Users of “All Other Rivers and Streams”

Consumption Rate		Active Consumers	Potential and Active Consumers
Mean gpd:		23.6	21.3
Median gpd:		11.3	9.5
Mode gpd:		5.7	0
Percentiles	50 th :	11.3	9.5
	80 th :	28.4	28.4
	90 th :	48.4	45.4
	95 th :	122.5	87.7
	99 th :	254.9	233.2
		N = 145	N = 161
Active Consumers, All Other Rivers as 1 st or 2 nd choice: 8.3% of respondents			
Active and Potential Consumers, All Other Rivers as 1 st or 2 nd choice: 9.2% of respondents			

Consumption Rate among “Large Lake” Anglers

Consumption rates can also be measured for anglers choosing large lakes and reservoirs as the fishing locations they use most frequently. Anglers show the following results:

Table 14. GPD for Primary Users of “Large Lakes and Reservoirs”

Consumption Rate		Active Consumers	Potential and Active Consumers
Mean gpd:		17.9	16.2
Median gpd:		9.5	8.5
Mode gpd:		5.7	0
Percentiles	50 th :	9.5	8.5
	80 th :	28.4	23.6
	90 th :	33.1	32.2
	95 th :	60.5	59.3
	99 th :	113.4	113.4
		N = 219	N = 242
Active Consumers, Large Lakes as 1 st choice: 13% of respondents			
Active and Potential consumers, Large Lakes as 1 st choice: 14% of respondents			

The following are data for respondents selecting large lakes and reservoirs as their first or second most frequently used locations:

Table 15. GPD for Primary and Secondary Users of “Large Lakes and Reservoirs”

Consumption Rate		Active Consumers	Potential and Active Consumers
Mean gpd:		20.0	18.4
Median gpd:		11.3	9.5
Mode gpd:		3.8	3.8
Percentiles	50 th :	11.3	9.5
	80 th :	28.4	28.4
	90 th :	37.8	37.8
	95 th :	60.5	60.5
	99 th :	181.4	181.4
		N = 378	N = 412
Active Consumers, Large Lakes as 1 st or 2 nd choice: 22% of respondents			
Active and Potential Consumers, Large Lakes as 1 st or 2 nd choice: 24% of respondents			

Consumption Rate among “Small Lake” Anglers

Other anglers fished mostly small lakes and ponds. For those using these locations as their primary sites, consumption data are as follows:

Table 16. GPD for Primary Users of “Small Lakes and Ponds”

Consumption Rate		Active Consumers	Potential and Active Consumers
Mean gpd:		20.6	18.1
Median gpd:		11.3	7.6
Mode gpd:		5.7	0
Percentiles	50 th :	11.3	7.6
	80 th :	28.4	28.4
	90 th :	37.8	37.8
	95 th :	60.5	60.5
	99 th :	181.4	181.4
		N = 473	N = 538
Active Consumers, Small Lakes as 1 st choice: or 27% of respondents			
Active and Potential Consumers, Small Lakes as 1 st choice: 31% of respondents			

Anglers using small lakes and ponds as their primary and secondary sites showed the following consumption rates:

Table 17. GPD for Primary and Secondary Users of “Small Lakes and Ponds”

Consumption Rate		Active Consumers	Potential and Active Consumers
Mean gpd:		20.4	18.2
Median gpd:		11.3	7.6
Mode gpd:		3.8	0
Percentiles	50 th :	11.3	7.6
	80 th :	28.4	28.4
	90 th :	37.8	37.8
	95 th :	60.5	60.5
	99 th :	181.4	181.4
		N = 651	N = 732
Active Consumers, Small Lakes as 1 st or 2 nd choice: 37% of respondents			
Active and Potential Consumers, Small Lakes as 1 st or 2 nd choice: 42% of respondents			

Summary of Consumption Rate by Fishing Location

Anglers with different preferences for fishing locations vary slightly in terms of consumption rates. Different anglers are compared in the following table:

Table 18. Summary of Fishing Locations and Consumption Rates

<i>Primary Users of Location</i>	<i>Mean gpd</i>	
	<i>Active Consumers</i>	<i>Potential and Active Consumers</i>
Lake Michigan	23.8	22.2
The Ohio, Wabash and/or White River	24.1	21.5
Other rivers and streams	20.0	18.0
Large lakes and reservoirs	17.9	16.2
Small lakes and ponds	20.6	18.1
<i>Primary or Secondary Users of Location</i>	<i>Mean gpd</i>	
	<i>Active Consumers</i>	<i>Potential and Active Consumers</i>
Lake Michigan	20.7	19.7
The Ohio, Wabash and/or White River	28.4	25.9
Other rivers and streams	23.6	21.3
Large lakes and reservoirs	20.0	18.4
Small lakes and ponds	20.4	18.2

CONSUMPTION RATE: GENDER ISSUES

Consumption of sport caught fish has been identified as a concern for women, especially during their childbearing years. The following discussion examines consumption rates among all female respondents, as well as among women of childbearing ages.

Consumption Rate among Female Respondents

Gender categories for respondents were 18% female and 82% male. Racial categories of females were similar to all respondents with approximately 95% white female anglers. The range of ages for female respondents was 18-66 years old, and 63% were of childbearing ages 18-45 years old. Among females, 70% were potential or active consumers of sport caught fish.

Table 19. Consumption Rate for All Female Respondents

Consumption Rate		Active Consumers	Potential and Active Consumers
Mean gpd:		19.0	14.4
Median gpd:		9.5	5.7
Mode gpd:		5.7	0
Percentiles	50 th :	9.5	5.7
	80 th :	28.4	23.6
	90 th :	45.4	37.8
	95 th :	68.0	60.5
	99 th :	150.1	130.9
		N=168	N=222
Active Consumers: 53% of female respondents			
Potential and Active Consumers: 70% of female respondents			

Women of Childbearing Years

Among female respondents, 63% were 18-45 years of age. This age category is selected as a range for childbearing years. Consumption rate was calculated for this group of women. Of all respondents, 44% were of: 1) childbearing age and 2) consumers of sport caught fish. Of these 138 women, 28% indicated they were potential consumers of sport caught fish and 73% were active consumers, having eaten fish in the last three months.

Table 20. Consumption Rate for Female Respondents of Childbearing Age (18-45 years old)

Consumption Rate		Active Consumers	Potential and Active Consumers
Mean gpd:		17.4	12.6
Median gpd:		9.5	4.4
Mode gpd:		3.8	0
Percentiles	50 th :	9.5	4.4
	80 th :	27.4	18.9
	90 th :	37.8	30.5
	95 th :	60.5	53.3
	99 th :	181.0	163.75
		N = 100	N = 138
% of respondents were women of childbearing age who were active consumers			
% of respondents were women of childbearing age who were potential or active consumers			

Weekly Consumption among Respondents

Weekly sport caught fish consumption was measured for respondents and their household members. Respondents were asked the following question: “In the last week did YOU *eat* Indiana sport caught fish?” Approximately 20% had eaten at least one meal in the past week.

Weekly Consumption among Household Members

Respondents were asked to indicate whether other members of their households had consumed fish in the past week. One limitation of this approach was that consumption values for only one week were obtained for other household members; however asking respondents to note the fish consumption behavior of other household members beyond the most recent week was questionable in terms of recall.

Another limitation involves likely responses to the question. The survey question asked respondents “In the last week how often did other people in your household eat Indiana sport caught fish? List person as adult (18 or older) or child, gender, age, and number of meals.” It is possible that household members would have been omitted if they had not consumed fish. Thus, the values are not representative of all household members of anglers. Rather, they represent the number of meals of sport caught fish consumed in one week by household members as noted by the respondents. The following table lists the percentages of anglers listing household members as consumers of sport caught fish, per category of household member. Data denote at least one member of the household category listed by respondent as eating fish in the last week.

Table 21. Household Members Eating Fish

Number (%) of Respondents	Household Members Listed Who Ate Fish*
167 (9.6%)	Adult males
230 (13%)	Adult Females (all ages)
80 (4.6%)	Male Children
51 (2.9%)	Female Children

* At least one member of this category was listed. For example, 167 respondents indicated that other household members included at least one adult male eating fish.

Household Data

From the data it was possible to identify:

- 1) households with children eating fish, and
- 2) households with women of childbearing age eating fish.

Children Eating Fish

A respondent could list as many as 5 household members in the questionnaire. A total of 284 children were listed. Among those, 194 children were listed as household members eating fish. However, it was possible to list more than one child per household. Among respondents, only 9.5% (N = 166) listed one or more children as household members; however 6.4% (N = 111) indicated children eating fish in their households. This corresponds to 67% of households with children listed as members having children eating sport caught fish during the week surveyed. In other words, the majority of angler households with children listed as members noted that children were also consuming sport caught fish.

Women of Childbearing Age Eating Fish

It was also possible to identify women of childbearing years who were listed as household members, who may have eaten sport caught fish during the survey. Among household members listed, 218 were women aged 18-45, and 150 of those individuals ate fish. It was possible for a respondent to note more than one woman of childbearing years in the household. Therefore, the number of households with fish consumers of childbearing age can be calculated. There were 200 households with at least one woman of childbearing age as a household member, and this represented 11% of respondents. Among all respondents, 140 or 8% of anglers indicated that in their households women of childbearing age ate fish during the week of the survey. A majority of households (73%) listing women of childbearing age as members noted that the women were consuming sport caught fish during the survey.

MAIL SURVEY RESPONDENTS: AUXILIARY INFORMATION

Species of Fish Consumed

Anglers were asked “In the last three months did you *eat* any of the following types of Indiana sport caught fish?” Twenty categories were provided including an “other” category. The most frequently selected fish species with approximate percentages of respondents are as follows: Bluegill or Sunfish (47%), Crappie (29%), Catfish (27%), and Largemouth Bass (23%).

Fishing Rates of Respondents

Consumption of sport caught fish can be compared with how often anglers went fishing during the recall period. Anglers were asked the following question: “In the last three months, how often did you go fishing in Indiana waters?” Indiana waters were defined in the beginning of the questionnaire as follows:

Indiana waters include: Lake Michigan and tributaries, inland reservoirs and lakes, ponds, large rivers, small rivers and streams in Indiana.

Some respondents (approximately 21%) had not gone fishing during their recall period, i.e., in the three months prior to receiving the questionnaire. Those who had gone fishing did so at the following rates:

Table 22. Fishing Rates of Respondents

Fishing Rate	Percentage of Respondents
Less than one day/month	19.6
Once/month	15.9
2-3 days/month	28.6
Once/week	19.3
2-4 days/week	15.6
5-7 days/week	0.9

Mean value = 2-3 days/month

Awareness of Advisories

Anglers were asked whether or not they were aware of the consumption advisory warnings for Indiana sport caught fish. Responses were as follows: No, not aware (23.7%), Yes, generally aware (35.1%), Yes, aware of certain fish and/or areas of the state (39.6%). Thus, 23.7% of respondents were not at all aware, while 74.7% indicated at least some awareness. Consumption rates varied with level of awareness. Respondents indicating greater awareness with advisories also indicated higher consumption levels.

Consumption Rate (gpd):	Specifically Aware	Generally Aware	Not Aware
Active Consumers	21.1	19.6	17.5
Active and Potential Consumers	18.7	16.3	12.3

Behavior Associated with Consumption Advisory Awareness

An important link to awareness is the behavior enacted by an individual. Anglers were asked to indicate how often they followed the consumption advisory warnings when: 1) deciding whether or not to eat Indiana sport caught fish and 2) cleaning and/or cooking Indiana sport caught fish. Anglers chose from a scale of (5) Always to (1) Never with a middle value of (3)

Sometimes. Selecting only those respondents who indicated that they were either generally or specifically aware of consumption advisory warnings produced the data in Tables 23 and 24.

Table 23. Eating Fish: Following Advisory Warnings when Deciding to Eat Fish.

<u>Response</u>	<u>Frequency of Respondents</u>	<u>Percentage of Aware Respondents (%)</u>
(1) Never	89	6.8
(2)	52	4.0
(3) Sometimes	223	17.1
(4)	181	13.9
(5) Always	722	55.4
Missing data	36	2.8

Table 24. Cleaning/Cooking Fish: Following Advisory Warnings when Cleaning/Cooking Fish.

<u>Response</u>	<u>Frequency of Respondents</u>	<u>Percentage of Aware Respondents (%)</u>
(1) Never	78	6.0
(2)	40	3.1
(3) Sometimes	140	10.7
(4)	200	15.3
(5) Always	771	59.2
Missing data	74	5.7

Source of Advisory Information

Respondents were asked the following question regarding their awareness of consumption advisories: “Where did you learn about the *consumption advisory warnings* for Indiana sport caught fish?” They were instructed to select as many sources as were applicable from the following choices: 1) newspaper or magazine, 2) Indiana fishing guide available with license, 3) friend or family member, 4) newsletters from sportsmen’s clubs or fishing organizations, 5) radio or television, 6) word of mouth, 7) state agency, 8) none, or 9) other.

The most frequently selected source for advisory information was “newspaper or magazine” by 41% of respondents. The next most frequently selected sources was “Indiana fishing guide” with 38% of respondents. “Word of mouth” was the next most often cited source for advisory information and was selected by 24% of respondents.

Uses of Information

Respondents were asked a general question regarding their sources of information for fishing activities: “Which of the following are important sources of information for your fishing activities in Indiana?” They were instructed to select as many sources as were important to them from the following choices: 1) newspaper or magazine, 2) Indiana fishing guide available with license, 3) friend or family member, 4) newsletters from sportsmen’s clubs or fishing organizations, 5) radio or television, 6) word of mouth, 7) state agency, 8) none, or 9) other. The most frequently selected source was “friend or family member” by 61% of respondents. The next most frequently selected source was “word of mouth” with 59% of respondents. An “Indiana fishing guide” was the next most often cited source for fishing information and was selected by 44% of respondents.

Race

Racial data were obtained from respondents. Racial categories and the distribution of respondents are as follows:

Table 25. Racial Data for Respondents

<u>Race</u>	<u>Frequency</u>	<u>Percentage of Respondents</u>
White, not Hispanic	1648	94.5
Asian American or Pacific Islander	10	0.6
Hispanic American	18	1.0
African American	12	0.7
Native American Indian	12	0.7
Mixed Race	16	0.9
Other	13	0.7
No response	14	0.8

Income

Categorical income data obtained from respondents are as follows:

Table 26. Income Data for Respondents

<u>Income Category</u>	<u>Frequency</u>	<u>Percentages</u>
Under \$5,000	31	1.8
\$5,000-9,999	50	2.9
\$10,000-14,999	63	3.6
\$15,000-24,999	200	11.5
\$25,000-34,999	283	16.2
\$35,000-49,999	351	20.1
\$50,000-74,999	401	23.0
Over \$75,000	192	11.0
No response	172	9.9

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- West, Patrick C., J. Mark Fly, Robert Marans, Frances Larkin, and Dorrie Rosenblatt. 1993. 1991-92 Michigan Sport Anglers Fish Consumption Study. Final Report to the Michigan Great Lakes Protection Fund, Michigan Department of Natural Resources.
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Appendix I. Other Calculation Methods

Michigan

GPD data for licensed anglers in Indiana can be compared to data from other regions based both on methods and results. The Michigan study measured portion size as follows: respondents were presented with a photograph of an 8 oz fillet and an 8 oz steak. Respondents indicated if they ate more, less or the same amount. If more, portion size was assumed as 10 oz, if less 6 oz, if same 8 oz, thus there is an upper limit of 10 oz. for the portion variable.

The recall period was one week and a rolling cohort method was used so that anglers were sampled throughout the year. A consumption rate was calculated per angler and then a cumulative frequency distribution was obtained based on a year of survey responses.

A possible example of gpd per angler:

$1 \text{ meals/week} \times 6 \text{ oz./meal} \times 28.35 \text{ grams/oz.} \times 1 \text{ week} / 7 \text{ days} = 24.3 \text{ grams per day}$

Table 27. Comparison of Methodologies: Indiana and Michigan Studies

	<u>Indiana</u>	<u>Michigan</u>
Recall Period	3 months/month rate	1 week
Recall Period Range	June-January	1 Year
Portion Photos	6, 8, 10, 12 oz.	8 oz
Portion Measurements	less than 4 oz. 4, 6, 8, 10, 12, 14, 16 oz.	6, 8, 10 oz.
Assigned		
GPD Calculation	Per Angler Sum/N = Mean	Per Angler Sum/N=Mean

Ontario

In 1993, the Ontario Ministry of Environment and Energy published a report entitled “The Results of the 1992 ‘Guide to Eating Ontario Sport Fish’ Questionnaire.”

Data were presented as follows:

Meal Size

1989 – ON Average meal size was 9.6 oz

1992 – ON Average meal size was 9.7 oz or 276 grams

Comparison: 1998 – Indiana Average meal size was 9.3 oz

Meal Frequency

Responses to meals per year were converted to days per year for an average of 29.8 meals/consumer/year

GPD

Ontario Calculation:

$(29.8 \text{ meals/consumer/year}) \times (9.72 \text{ oz/meal}) = (298.7 \text{ oz/year}) \times (28.35 \text{ grams/oz}) \times (1 \text{ year/365 days}) = 22.5 \text{ gpd}$

Note: This is an *averaging* technique, with an average meal frequency and meal size.

Comparison: Using the Ontario method, Indiana GPD would be as follows:

Check this value

$(2.0 \text{ meals/month}) \times (12 \text{ mo/yr}) \times (9.3 \text{ oz/meal}) \times (28.35 \text{ grams/oz}) \times (1 \text{ yr/365 days}) = 17.3 \text{ gpd}$

Table 28. Comparison: Using Indiana vs. Ontario Method

Consumption Rate	IN Active Consumers	IN Active/Potential Consumers	Ontario Method IN data
Mean gpd	19.8	16.4	17.3

The Ontario method produces a value that falls between the Indiana values for “active” versus “active and potential” consumers.

Appendix II. Example Calculation of Indiana Method

1. Respondents selected a portion size based on photographs of 6, 8, 10 and 12 ounces. Possible portions ranged from less than 4 oz to 16 oz. for a total of 8 sizes. Those who indicated they had eaten fish during the recall period but did not indicate a portion size were assigned the mean portion value, which is 9.33 ounces per meal.
2. Respondents were assigned a monthly meal frequency code, based on their response to how often they had eaten sport caught fish meals in the past three months:

0.5 – less than one meal a month
1 – one meal a month
2.5 – 2-3 meals per month
4 – one meal a week
12 – 2-4 meals per week (average 3)
24 – 5-7 meals per week (average 6)
0 – Never in last three months

3. Examples of GPD per angler

Active Consumers

- a) $(14 \text{ ounces/meal}) \times (4 \text{ meals/month}) \times (1 \text{ month/30 days}) \times (28.35 \text{ grams/ounce}) = 52.92 \text{ GPD}$
- b) $(6 \text{ ounces/meal}) \times (4 \text{ meals/month}) \times (1 \text{ month/30 days}) \times (28.35 \text{ grams/ounce}) = 22.68 \text{ GPD}$
- c) $(8 \text{ ounces/meal}) \times (1 \text{ meal/month}) \times \text{etc.} = 7.46 \text{ GPD}$
- d) $(6 \text{ ounces/meal}) \times (0.5 \text{ meals/month}) \times \text{etc.} = 2.80 \text{ GPD}$

Potential Consumers — do eat fish but not during the survey recall period

- e) $(8 \text{ ounces/meal}) \times (0 \text{ meals in recall period}) \times (1 \text{ month/30 days}) \times (28.35 \text{ grams/ounce}) = 0 \text{ GPD}$

- 1) Total GPD

Active Consumers

$$\text{Mean} = (52.92 + 22.68 + 7.46 + 2.80) / 4 = \mathbf{21.47 \text{ GPD}}$$

Active and Potential Consumers

$$\text{Mean} = (52.92 + 22.68 + 7.46 + 2.80 + 0) / 5 = \mathbf{17.17 \text{ GPD}}$$

Appendix III. Respondents not Eating Fish

Some respondents did not consume sport caught fish. They indicated “zero” for their portion size and/or selected “never” for the question “In the last three months, how often did you eat Indiana sport caught fish?” Respondents are referred to as “non-consumers.” Number of respondents in selected categories were as follows:

Meals: 669 – Never ate fish in the last three months (24 – missing meal data).
Portion Size: 102 – Zero ounces indicated as portion size (385 – missing portion data).

Portion Size and Meal Frequency (Percentage of Respondents):

- 97 (5.6%) I eat “zero” ounces, and I “never” ate sport caught fish in the last three months.
- 5 (0.3%) I eat “zero” ounces and ate fish less than one meal a month in the last three months. Note that this is inconsistent. These respondents are assumed to have “never” eaten if they noted zero ounces as a portion size. The data for the five respondents was changed from “less than one meal a month” to a meal frequency of zero or “never” ate in the last three months.

The remainder indicated a portion size per meal but did not eat during the recall period.

Respondents in these categories are referred to as “potential” consumers.

- 40 (2.3%) I normally eat “less than 4 oz.” in a meal, but “never” in the last three months.
- 12 (0.7%) I normally eat “4 oz.” in a meal, but “never” ate in the last three months.
- 31 (1.8%) I normally eat “6 oz.” in a meal, but “never” ate in the last three months.
- 44 (2.5%) I normally eat “8 oz.” in a meal, but “never” ate in the last three months.
- 43 (2.5%) I normally eat “10 oz.” in a meal, but “never” ate in the last three months.
- 27 (1.5%) I normally eat “12 oz.” in a meal, but “never” ate in the last three months.
- 6 (0.3%) I normally eat “14 oz.” in a meal, but “never” ate in the last three months.
- 13 (0.7%) I normally eat “16 oz.” in a meal, but “never” ate in the last three months.

Those who “never” ate in the recall period, or indicated a portion size of “zero ounces” are removed from GPD calculations. Respondents who normally eat sport caught fish but who did not do so during the recall period are included in the GPD calculation as potential consumers. Anglers who ate sport caught fish during the recall period are active consumers. GPD values are calculated for “active” consumers, and for “active and potential” consumers.

In summary, the following table indicates the way that respondents were defined:

Appendix IV. Defining Types of Respondents

Respondents were organized into one of three categories given their fish consumption behavior, as noted in the following table:

Table 29. Types of Respondents

<u>In the last three months, how often did you eat Indiana sport caught fish?</u>	
Did respondent eat at least one fish meal in the last three months?	
Yes	I ate a fish meal in the last three months. And, my portion size is 4-16 oz. Or, my portion size is ? (left blank) – substitute mean 9.3 oz. Active Consumers N = 1045 (60% of respondents)
No	I did not eat fish in the last three months. But, my typical portion size is 4-16 oz Potential Consumers N = 216 (12% of respondents)
No	I did not eat fish in the last three months. And, my portion is Zero oz. Or, My portion is ? (left blank) Non-Consumers N = 458 (26% of respondents)
Missing Data	No answer given to the question N = 24 (1.4% of respondents)

Appendix V. Non-Respondent Interview Data

Given the effective response rate of 42%, a need was identified to contact non-respondents by phone interviews. A total of 103 phone interviews were completed. This obtained sample of non-respondents required at least one attempt to contact 292 non-respondents.

Up to three attempts were made to reach a non-respondent, following which a new name and phone number of another non-respondent were selected. Of the non-respondents selected, 75 had unusable phone numbers (disconnected, wrong number, did not live there), 19 indicated that they were not interested in an interview, and the remainder received up to three attempts and were set aside to be replaced by another non-respondent.

General Findings – Non-Respondent Interviewees

Completed interviews among non-respondents produced several findings for comparison with the mail survey respondents. Among phone interviewees, 27.2% (28/103) had not gone fishing while 72.8% (75/103) had gone fishing in 1997, the survey year. Data were not obtained for the other questions from those who did not fish in 1997. Approximately 3/4 of the anglers did go fishing in 1997. Their data may be useful as a comparison to respondent data.

Data were divided into the three time cohorts, 35 respondents for summer (34%), 35 for late summer through fall (34%), and 33 (32%) for fall. Among anglers who fished sometime in 1997, 13.3% had not fished during the requested recall period. A small number, 4 of the 75 anglers, were vacation anglers, fishing infrequently during the previous year. The active anglers (61/75) on average fished slightly more than 2-3 days per month.

Of those who did go fishing in 1997, 29.3% had never eaten fish during the three month recall period. Those who did eat fish during the three month recall period, 48/75 active anglers for 1997, ate on average between 1 and 2 meals per month.

Non-Respondent Interviewees – Portion Size

Non-respondents interviewed by telephone were given verbal cues and asked to select the appropriate portion size for a typical meal. A portion covering one fourth of a dinner plate was 6 ounces. This was also the size of a music cassette tape box. If a typical portion covered one third of a dinner plate or about the size of a dollar bill, this was coded as 8 ounces. This portion was also the size of a person's palm including the fingers. A 10 ounce portion was about the size of a piece of sandwich-sized bread. A 12 ounce portion was referred to as covering half of a dinner plate or about the size of a business-sized envelope. With these cues, interviewees selected a typical portion size.

The mean portion size among non-respondents who ate fish was 9.4 ounces, very close to the mean portion size for mail survey respondents of 9.3 ounces. The median and modal values for non-respondents were both 8 ounces. Among active anglers in 1997, 17.3% noted a portion size of zero ounces, that they did not eat fish. Portion sizes per angler were employed to calculate GPD values among non-respondents who participated in telephone interviews.

Average Gram per Day for Non-Respondents

GPD (grams per day) was calculated for 48 non-respondents as active consumers and 58 respondents as active or potential consumers. Thus 48/75 and 58/75 possible cases provided gpd data because only 75/103 non-respondents had fished in 1997. Thus, 64% of those who had gone fishing in 1997 were active consumers and 77% of those who fished in 1997 were active and potential consumers. Of all non-respondents, 48/103 provided gpd data for active consumers, thus from 47% of all non-respondents; in addition, 58/103 provided gpd data for active and potential consumers, or 56% of non-respondent interviewees.

Table 30. Grams per Day for Non-Respondent Interviewees

Consumption Rate		Active Consumers	Active and Potential Consumers
Mean gpd:		26.8	22.2
Median gpd:		11.3	10.4
Mode gpd:		18.9	0
Percentiles	50 th :	11.3	10.4
	80 th :	28.7	28.4
	90 th :	90.7	90.7
	95 th :	136.1	136.1
	99 th :	136.1	136.1
		N = 48	N = 58
Active Consumers, Nonrespondents Interviewees: 65% of active anglers, 47% of interviewees.			
Active and Potential Consumers, Non-Respondents: 77% of active anglers, 56% of interviewees.			

Comparison of Mail Survey Respondents and Non-Respondent Interviewees

Another perspective is to compare fishing rates between respondents and non-respondents. Among the 1743 mail respondents, approximately 21% had not gone fishing during the recall period. In contrast 28/103 non-respondents (27.2%) did not fish at all in 1997, and of those who did go fishing, 10/75 did not fish during the recall period (10/103=9.7%) and 4/75 went fishing only during a vacation (4/103=3.9% of total respondents). Thus, in terms of total

non-respondents, the percentage of those who did not fish at all/did not fish in the recall period was $27.2 + 9.7 + 3.9 = 40.8\%$ of non-respondents. In addition 28/103 or 27.2% did not fish at all (no consumption rate measured) while 22/75 did not eat during the recall period ($22/103=21.4\%$). Thus, for 48.6% of non-respondents, no consumption of sport caught fish was identified.

Table 31. Comparison of Mail Survey Respondents and Non-Respondent Interviewees

Characteristic	Respondents	Non-Respondents
<i>Did not go fishing</i>	21%	41%
<i>No consumption data contributed to GPD calculation</i>	40%	49%

Vacation Anglers

Four respondents can be classified as vacation anglers. One woman went fishing only one week in July, when she also ate fish. Thus, only one time during the year did she fish and eat sport caught fish. Another respondent went fishing one time in the spring, and indicated that he eats fish only two or three times a year. When he does eat fish he eats 12 ounces or more for a meal. Another angler goes fishing one time a year. A fourth angler only fished two or three times in 1997. Thus, non-respondents also included vacation anglers, who fished or ate sport caught fish only during vacation times spent in Indiana.

Appendix VI. Variable Frequencies

Frequencies: IDEM Mail Survey Variables

Statistics

type of return

N	Valid	1765
	Missing	0

return: type of return

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Answered	1743	98.8	98.8	98.8
Undeliverable	1	.1	.1	98.8
Deceased	1	.1	.1	98.9
Refused	1	.1	.1	98.9
Does not/Did not eat fish or go fishing	14	.8	.8	99.7
Too young	5	.3	.3	100.0
Total	1765	100.0	100.0	

DATE

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	146	8.3	8.4	8.4
81397	1	.1	.1	8.4
81497	1	.1	.1	8.5
81597	33	1.9	1.9	10.4
81697	56	3.2	3.2	13.6
81797	37	2.1	2.1	15.7
81897	36	2.0	2.1	17.8
81997	21	1.2	1.2	19.0
82097	10	.6	.6	19.6
82197	8	.5	.5	20.0
82297	20	1.1	1.1	21.2
82397	17	1.0	1.0	22.1
82497	16	.9	.9	23.1
82597	18	1.0	1.0	24.1
82697	10	.6	.6	24.7
82797	11	.6	.6	25.3
82897	6	.3	.3	25.6
82997	2	.1	.1	25.8
83097	2	.1	.1	25.9
83197	2	.1	.1	26.0
90197	2	.1	.1	26.1
90297	4	.2	.2	26.3
90397	1	.1	.1	26.4
90797	1	.1	.1	26.4
90897	1	.1	.1	26.5
90997	1	.1	.1	26.6
91097	3	.2	.2	26.7
91297	7	.4	.4	27.1
91397	48	2.7	2.8	29.9
91497	32	1.8	1.8	31.7
91597	43	2.4	2.5	34.2

91697	17	1.0	1.0	35.2
91797	18	1.0	1.0	36.2
91897	7	.4	.4	36.6
91997	9	.5	.5	37.1
92097	11	.6	.6	37.8
92197	6	.3	.3	38.1
92297	7	.4	.4	38.5
92397	5	.3	.3	38.8
92497	2	.1	.1	38.9
92597	6	.3	.3	39.2
92697	28	1.6	1.6	40.8
92797	74	4.2	4.2	45.1
92897	42	2.4	2.4	47.5
92997	39	2.2	2.2	49.7
93097	27	1.5	1.5	51.3
100197	29	1.6	1.7	53.0
100297	28	1.6	1.6	54.6
100397	20	1.1	1.1	55.7
100497	12	.7	.7	56.4
100597	8	.5	.5	56.9
100697	16	.9	.9	57.8
100797	5	.3	.3	58.1
100897	7	.4	.4	58.5
100997	4	.2	.2	58.7
101097	4	.2	.2	58.9
101297	2	.1	.1	59.0
101397	1	.1	.1	59.1
101497	2	.1	.1	59.2
101597	1	.1	.1	59.3
101697	5	.3	.3	59.6
101797	24	1.4	1.4	60.9
101897	47	2.7	2.7	63.6
101997	16	.9	.9	64.5
102097	25	1.4	1.4	66.0
102197	17	1.0	1.0	67.0
102297	9	.5	.5	67.5
102397	9	.5	.5	68.0
102497	8	.5	.5	68.4
102597	2	.1	.1	68.6
102697	3	.2	.2	68.7
102797	9	.5	.5	69.2
102897	2	.1	.1	69.4
103097	1	.1	.1	69.4
103197	4	.2	.2	69.7
110297	1	.1	.1	69.7
110397	4	.2	.2	69.9
110597	1	.1	.1	70.0
110697	1	.1	.1	70.1
110797	1	.1	.1	70.1
111197	2	.1	.1	70.2
111297	55	3.1	3.2	73.4
111397	40	2.3	2.3	75.7
111497	46	2.6	2.6	78.3
111597	29	1.6	1.7	80.0
111697	15	.8	.9	80.8
111797	16	.9	.9	81.8
111897	16	.9	.9	82.7
111997	16	.9	.9	83.6

112097	23	1.3	1.3	84.9
112197	10	.6	.6	85.5
112297	10	.6	.6	86.1
112397	4	.2	.2	86.3
112497	6	.3	.3	86.6
112597	6	.3	.3	87.0
112697	1	.1	.1	87.0
112797	1	.1	.1	87.1
112897	2	.1	.1	87.2
112997	2	.1	.1	87.3
113097	3	.2	.2	87.5
120197	3	.2	.2	87.7
120297	3	.2	.2	87.8
120397	1	.1	.1	87.9
120597	2	.1	.1	88.0
120797	1	.1	.1	88.1
120997	1	.1	.1	88.1
121097	1	.1	.1	88.2
121197	30	1.7	1.7	89.9
121297	58	3.3	3.3	93.2
121397	28	1.6	1.6	94.8
121497	15	.8	.9	95.7
121597	19	1.1	1.1	96.8
121697	10	.6	.6	97.4
121797	6	.3	.3	97.7
121897	7	.4	.4	98.1
121997	3	.2	.2	98.3
122097	4	.2	.2	98.5
122197	2	.1	.1	98.6
122297	3	.2	.2	98.8
122397	2	.1	.1	98.9
122497	1	.1	.1	99.0
122597	1	.1	.1	99.0
122697	2	.1	.1	99.1
122797	1	.1	.1	99.2
122897	1	.1	.1	99.3
122997	1	.1	.1	99.3
123097	2	.1	.1	99.4
123197	1	.1	.1	99.5
10298	1	.1	.1	99.5
10498	1	.1	.1	99.6
10598	1	.1	.1	99.7
10998	1	.1	.1	99.7
12298	1	.1	.1	99.8
12398	1	.1	.1	99.8
12698	1	.1	.1	99.9
12798	1	.1	.1	99.9
21298	1	.1	.1	100.0
Total	1743	98.8	100.0	
Missing System	22	1.2		
Total	1765	100.0		

fishing: fishing frequency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than once a month	268	15.2	15.4	15.4
	once a month	218	12.4	12.5	27.9
	2-3 days per month	392	22.2	22.5	50.4
	once a week	264	15.0	15.1	65.5
	2-4 days per week	214	12.1	12.3	77.8
	5-7 days per week	13	.7	.7	78.5
	never in last three month	372	21.1	21.3	99.9
	9 = missing data	2	.1	.1	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

lakemi: Lake MI and tributaries -- frequency of use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1506	85.3	86.4	86.4
	1st	54	3.1	3.1	89.5
	2nd	46	2.6	2.6	92.1
	3rd	27	1.5	1.5	93.7
	4th	27	1.5	1.5	95.2
	5th	46	2.6	2.6	97.9
	6th	29	1.6	1.7	99.5
	7 = no rank	8	.5	.5	100.0
	Total	1743	98.8	100.0	
Missin	System	22	1.2		
Total		1765	100.0		

threeriv: Ohio, Wabash and/or White River -- frequency of use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not selected	1386	78.5	79.5	79.5
	1st	102	5.8	5.9	85.4
	2nd	88	5.0	5.0	90.4
	3rd	63	3.6	3.6	94.0
	4th	39	2.2	2.2	96.3
	5th	29	1.6	1.7	97.9
	6th	12	.7	.7	98.6
	selected without rank	24	1.4	1.4	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

otherriv: all other rivers and streams -- frequency of use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not selected	1359	77.0	78.0	78.0
	1st	85	4.8	4.9	82.8
	2nd	114	6.5	6.5	89.4
	3rd	112	6.3	6.4	95.8
	4th	38	2.2	2.2	98.0
	5th	15	.8	.9	98.9
	6th	2	.1	.1	99.0
	selected without rank	18	1.0	1.0	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

lglakes: large lakes and reservoirs -- frequency of use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not selected	1071	60.7	61.4	61.4
	1st	293	16.6	16.8	78.3
	2nd	207	11.7	11.9	90.1
	3rd	81	4.6	4.6	94.8
	4th	29	1.6	1.7	96.4
	5th	10	.6	.6	97.0
	6th	4	.2	.2	97.2
	selected without rank	48	2.7	2.8	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

smlakes: small lakes and ponds -- frequency of use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not selected	666	37.7	38.2	38.2
	1st	673	38.1	38.6	76.8
	2nd	232	13.1	13.3	90.1
	3rd	83	4.7	4.8	94.9
	4th	16	.9	.9	95.8
	5th	1	.1	.1	95.9
	6th	1	.1	.1	95.9
	selected without rank	71	4.0	4.1	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

other fishing areas -- frequency of use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not selected	1538	87.1	88.2	88.2
	1st	91	5.2	5.2	93.5
	2nd	30	1.7	1.7	95.2
	3rd	23	1.3	1.3	96.5
	4th	12	.7	.7	97.2
	5th	14	.8	.8	98.0
	6th	23	1.3	1.3	99.3
	selected without rank	12	.7	.7	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

eatweek: Did you eat fish in the last week?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	1386	78.5	79.5	79.5
	Yes	351	19.9	20.1	99.7
	9 = missing	6	.3	.3	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

breakfast 7 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1732	98.1	99.4	99.4
	Yes	11	.6	.6	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

breakfast 6 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1739	98.5	99.8	99.8
	Yes	4	.2	.2	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

breakfast 5 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1743	98.8	100.0	100.0
Missing	System	22	1.2		
Total		1765	100.0		

breakfast 4 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1740	98.6	99.8	99.8
	Yes	3	.2	.2	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

breakfast 3 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1743	98.8	100.0	100.0
Missing	System	22	1.2		
Total		1765	100.0		

breakfast 2 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1740	98.6	99.8	99.8
	Yes	3	.2	.2	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

breakfast yesterday

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	1737	98.4	99.7	99.7
	Yes	6	.3	.3	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

lunch 7 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	1684	95.4	96.6	96.6
	Yes	59	3.3	3.4	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

lunch 6 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1730	98.0	99.3	99.3
	Yes	13	.7	.7	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

lunch 5 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1731	98.1	99.3	99.3
	Yes	12	.7	.7	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

lunch 4 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1703	96.5	97.7	97.7
	Yes	40	2.3	2.3	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

lunch 3 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1735	98.3	99.5	99.5
	Yes	8	.5	.5	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

lunch 2 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1737	98.4	99.7	99.7
	Yes	6	.3	.3	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

lunch yesterday

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1725	97.7	99.0	99.0
	Yes	18	1.0	1.0	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

dinner 7 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1578	89.4	90.5	90.5
	Yes	165	9.3	9.5	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

dinner 6 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1715	97.2	98.4	98.4
	Yes	28	1.6	1.6	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

dinner 5 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1719	97.4	98.6	98.6
	Yes	24	1.4	1.4	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

dinner 4 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blank	1650	93.5	94.7	94.7
	Yes	93	5.3	5.3	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

dinner 3 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1722	97.6	98.8	98.8
	yes	21	1.2	1.2	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

dinner 2 days ago

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1732	98.1	99.4	99.4
	yes	11	.6	.6	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

dinner yesterday

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1678	95.1	96.3	96.3
	yes	65	3.7	3.7	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

Household member 1 adult/child

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	adult	401	22.7	94.8	94.8
	child	22	1.2	5.2	100.0
	Total	423	24.0	100.0	
Missing	System	1342	76.0		
Total		1765	100.0		

Household member 1 age

	Age	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4	1	.1	.1	.1
	5	1	.1	.1	.1
	6	1	.1	.1	.2
	7	3	.2	.2	.4
	8	3	.2	.2	.5
	9	1	.1	.1	.6
	10	1	.1	.1	.7
	13	1	.1	.1	.7
	14	3	.2	.2	.9
	15	3	.2	.2	1.1
	16	2	.1	.1	1.2
	17	2	.1	.1	1.3
	18	2	.1	.1	1.4
	19	2	.1	.1	1.6
	20	2	.1	.1	1.7
	21	5	.3	.3	2.0
	22	3	.2	.2	2.2
	23	2	.1	.1	2.3
	24	3	.2	.2	2.5
	25	4	.2	.2	2.7
	26	6	.3	.4	3.1
	27	3	.2	.2	3.3
	28	5	.3	.3	3.6
	29	3	.2	.2	3.7
	30	10	.6	.6	4.3
	31	4	.2	.2	4.6
	32	10	.6	.6	5.2
	33	8	.5	.5	5.7
	34	9	.5	.5	6.2
	35	10	.6	.6	6.8
	36	12	.7	.7	7.5
	37	9	.5	.5	8.1
	38	10	.6	.6	8.7
	39	15	.8	.9	9.6
	40	26	1.5	1.6	11.1
	41	14	.8	.8	12.0
	42	10	.6	.6	12.6
	43	15	.8	.9	13.5
	44	14	.8	.8	14.3
	45	15	.8	.9	15.2
	46	8	.5	.5	15.7
	47	7	.4	.4	16.1
	48	8	.5	.5	16.6
	49	5	.3	.3	16.9
	50	19	1.1	1.1	18.1
	51	8	.5	.5	18.5
	52	10	.6	.6	19.1
	53	11	.6	.7	19.8
	54	7	.4	.4	20.2
	55	8	.5	.5	20.7
	56	9	.5	.5	21.3
	57	8	.5	.5	21.7
	58	6	.3	.4	22.1
	59	7	.4	.4	22.5
	60	8	.5	.5	23.0
	61	4	.2	.2	23.2

62	5	.3	.3	23.5
63	7	.4	.4	24.0
64	3	.2	.2	24.1
65	1	.1	.1	24.2
66	1	.1	.1	24.3
68	1	.1	.1	24.3
69	1	.1	.1	24.4
70	5	.3	.3	24.7
73	2	.1	.1	24.8
82	2	.1	.1	24.9
99	1247	70.7	75.1	100.0
Total	1661	94.1	100.0	
Missing System	104	5.9		
Total	1765	100.0		

Household member 1 gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	190	10.8	45.9	45.9
	female	224	12.7	54.1	100.0
	Total	414	23.5	100.0	
Missing	System	1351	76.5		
Total		1765	100.0		

Household member 1 weekly meals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	zero	557	31.6	33.5	33.5
	1	184	10.4	11.1	44.6
	2	110	6.2	6.6	51.2
	3	16	.9	1.0	52.2
	4	7	.4	.4	52.6
	5	1	.1	.1	52.6
	6	2	.1	.1	52.8
	7	1	.1	.1	52.8
	8	1	.1	.1	52.9
	Blank	783	44.4	47.1	100.0
	Total	1662	94.2	100.0	
Missing	System	103	5.8		
Total		1765	100.0		

Household member 2 adult/child

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Adult	163	9.2	61.5	61.5
	Child	102	5.8	38.5	100.0
	Total	265	15.0	100.0	
Missing	System	1500	85.0		
Total		1765	100.0		

Household member 2 age

	Age	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	5	.3	.3	.3
	4	7	.4	.4	.7
	5	4	.2	.2	1.0
	6	3	.2	.2	1.2
	7	6	.3	.4	1.5
	8	9	.5	.5	2.1
	9	6	.3	.4	2.4
	10	11	.6	.7	3.1
	11	6	.3	.4	3.5
	12	7	.4	.4	3.9
	13	1	.1	.1	3.9
	14	12	.7	.7	4.7
	15	8	.5	.5	5.1
	16	7	.4	.4	5.6
	17	8	.5	.5	6.1
	18	5	.3	.3	6.4
	19	3	.2	.2	6.5
	20	5	.3	.3	6.8
	21	4	.2	.2	7.1
	22	2	.1	.1	7.2
	23	2	.1	.1	7.3
	24	3	.2	.2	7.5
	25	4	.2	.2	7.8
	27	5	.3	.3	8.1
	28	7	.4	.4	8.5
	29	2	.1	.1	8.6
	30	2	.1	.1	8.7
	31	1	.1	.1	8.8
	32	6	.3	.4	9.1
	33	1	.1	.1	9.2
	34	5	.3	.3	9.5
	35	3	.2	.2	9.7
	37	4	.2	.2	9.9
	38	5	.3	.3	10.2
	39	3	.2	.2	10.4
	40	14	.8	.8	11.3
	41	2	.1	.1	11.4
	42	5	.3	.3	11.7
	43	4	.2	.2	11.9
	44	1	.1	.1	12.0
	45	3	.2	.2	12.2
	46	3	.2	.2	12.4
	47	4	.2	.2	12.6
	48	6	.3	.4	13.0

50	8	.5	.5	13.4
51	4	.2	.2	13.7
52	1	.1	.1	13.7
53	3	.2	.2	13.9
54	4	.2	.2	14.2
55	4	.2	.2	14.4
56	2	.1	.1	14.5
57	2	.1	.1	14.7
59	1	.1	.1	14.7
60	2	.1	.1	14.8
61	1	.1	.1	14.9
62	1	.1	.1	15.0
64	1	.1	.1	15.0
66	1	.1	.1	15.1
67	1	.1	.1	15.1
71	1	.1	.1	15.2
72	3	.2	.2	15.4
73	1	.1	.1	15.4
79	1	.1	.1	15.5
80	2	.1	.1	15.6
86	1	.1	.1	15.7
99	1392	78.9	84.3	100.0
Total	1651	93.5	100.0	
Missing System	114	6.5		
Total	1765	100.0		

Household member 2 gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	115	6.5	44.2	44.2
	female	145	8.2	55.8	100.0
	Total	260	14.7	100.0	
Missing	System	1505	85.3		
Total		1765	100.0		

Household member 2 weekly meals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	zero	524	29.7	31.7	31.7
	1	117	6.6	7.1	38.8
	2	58	3.3	3.5	42.3
	3	8	.5	.5	42.8
	4	5	.3	.3	43.1
	5	1	.1	.1	43.2
	8	3	.2	.2	43.4
	Blank	935	53.0	56.6	100.0
	Total	1651	93.5	100.0	
Missing	System	114	6.5		
Total		1765	100.0		

Household member 3 adult/child

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	adult	50	2.8	32.3	32.3
	child	105	5.9	67.7	100.0
	Total	155	8.8	100.0	
Missing	System	1610	91.2		
Total		1765	100.0		

Household member 3 age

	Age	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	7	.4	.4	.4
	3	1	.1	.1	.5
	4	6	.3	.4	.9
	5	6	.3	.4	1.2
	6	8	.5	.5	1.7
	7	7	.4	.4	2.1
	8	6	.3	.4	2.5
	9	6	.3	.4	2.9
	10	7	.4	.4	3.3
	11	6	.3	.4	3.7
	12	7	.4	.4	4.1
	13	8	.5	.5	4.6
	14	9	.5	.5	5.1
	15	7	.4	.4	5.5
	16	7	.4	.4	6.0
	17	5	.3	.3	6.3
	18	2	.1	.1	6.4
	19	5	.3	.3	6.7
	20	3	.2	.2	6.9
	21	4	.2	.2	7.1
	22	4	.2	.2	7.4
	24	2	.1	.1	7.5
	26	1	.1	.1	7.6
	27	2	.1	.1	7.7
	28	3	.2	.2	7.9
	30	2	.1	.1	8.0
	31	1	.1	.1	8.0
	32	1	.1	.1	8.1
	35	1	.1	.1	8.2
	36	2	.1	.1	8.3
	40	2	.1	.1	8.4
	41	1	.1	.1	8.5
	42	1	.1	.1	8.5
	45	1	.1	.1	8.6
	47	1	.1	.1	8.7
	48	1	.1	.1	8.7
	50	1	.1	.1	8.8
	55	2	.1	.1	8.9
	58	1	.1	.1	9.0
	66	1	.1	.1	9.0
	72	1	.1	.1	9.1
	73	1	.1	.1	9.1
	74	1	.1	.1	9.2
	75	1	.1	.1	9.3
	99	1488	84.3	90.7	100.0
Total		1640	92.9	100.0	
Missing System		125	7.1		
Total		1765	100.0		

Household member 3 gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	94	5.3	61.4	61.4
	female	59	3.3	38.6	100.0
	Total	153	8.7	100.0	
Missing	System	1612	91.3		
Total		1765	100.0		

Household member 3 weekly meals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	zero	502	28.4	30.6	30.6
	1	63	3.6	3.8	34.5
	2	35	2.0	2.1	36.6
	3	4	.2	.2	36.8
	5	1	.1	.1	36.9
	8	2	.1	.1	37.0
	Blank	1033	58.5	63.0	100.0
	Total	1640	92.9	100.0	
Missing	System	125	7.1		
Total		1765	100.0		

Household member 4 adult/child

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	adult	21	1.2	32.3	32.3
	child	44	2.5	67.7	100.0
	Total	65	3.7	100.0	
Missing	System	1700	96.3		
Total		1765	100.0		

Household member 4 gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	35	2.0	55.6	55.6
	female	28	1.6	44.4	100.0
	Total	63	3.6	100.0	
Missing	System	1702	96.4		
Total		1765	100.0		

Household member 4 age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	.1	.1	.1
	2	2	.1	.1	.2
	3	2	.1	.1	.4
	4	3	.2	.2	.6
	5	2	.1	.1	.7
	6	4	.2	.2	.9
	7	4	.2	.2	1.2
	8	2	.1	.1	1.3
	9	2	.1	.1	1.4
	10	3	.2	.2	1.6
	11	2	.1	.1	1.7
	12	1	.1	.1	1.8
	13	3	.2	.2	2.0
	14	3	.2	.2	2.1
	15	1	.1	.1	2.2
	16	4	.2	.2	2.4
	17	2	.1	.1	2.6
	18	2	.1	.1	2.7
	21	1	.1	.1	2.8
	22	2	.1	.1	2.9
	23	1	.1	.1	2.9
	25	1	.1	.1	3.0
	26	1	.1	.1	3.1
	28	1	.1	.1	3.1
	34	2	.1	.1	3.2
	35	1	.1	.1	3.3
	36	1	.1	.1	3.4
	38	1	.1	.1	3.4
	40	2	.1	.1	3.5
	46	1	.1	.1	3.6
	48	1	.1	.1	3.7
	49	1	.1	.1	3.7
	52	1	.1	.1	3.8
	66	1	.1	.1	3.9
	99	1573	89.1	96.1	100.0
	Total	1636	92.7	100.0	
Missing	System	129	7.3		
Total		1765	100.0		

Household member 4 meals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	zero	474	26.9	29.0	29.0
	1	25	1.4	1.5	30.5
	2	18	1.0	1.1	31.6
	3	5	.3	.3	31.9
	Blank	1114	63.1	68.1	100.0
	Total	1636	92.7	100.0	
Missing	System	129	7.3		
Total		1765	100.0		

Household member 5 adult/child

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	adult	2	.1	15.4	15.4
	child	11	.6	84.6	100.0
	Total	13	.7	100.0	
Missing	System	1752	99.3		
Total		1765	100.0		

Household member 5 age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	.1	15.4	15.4
	3	2	.1	15.4	30.8
	4	1	.1	7.7	38.5
	5	1	.1	7.7	46.2
	8	1	.1	7.7	53.8
	12	1	.1	7.7	61.5
	13	1	.1	7.7	69.2
	16	1	.1	7.7	76.9
	21	1	.1	7.7	84.6
	40	1	.1	7.7	92.3
	Blank	1	.1	7.7	100.0
	Total	13	.7	100.0	
Missing	System	1752	99.3		
Total		1765	100.0		

Household member 5 gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	6	.3	54.5	54.5
	female	5	.3	45.5	100.0
	Total	11	.6	100.0	
Missing	System	1754	99.4		
Total		1765	100.0		

Household member 5 meals

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	zero	3	.2	23.1	23.1
	1	7	.4	53.8	76.9
	2	3	.2	23.1	100.0
	Total	13	.7	100.0	
Missing	System	1752	99.3		
Total		1765	100.0		

Ate fish in last three months

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	never	669	37.9	38.9	38.9
	less than one meal/month	380	21.5	22.1	61.0
	one meal/month	258	14.6	15.0	76.0
	2-3 meals/month	272	15.4	15.8	91.9
	one meal/week	89	5.0	5.2	97.0
	2-4 meals/week	49	2.8	2.9	99.9
	5-7 meals/week	2	.1	.1	100.0
	Total	1719	97.4	100.0	
Missing	System	46	2.6		
Total		1765	100.0		

Portion: portion size

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	102	5.8	7.5	7.5
	less than 4 oz.	73	4.1	5.4	12.9
	4 oz. (1/4 lb.)	97	5.5	7.1	20.0
	6 oz	170	9.6	12.5	32.5
	8 oz (1/2 lb.)	258	14.6	19.0	51.5
	10 oz.	212	12.0	15.6	67.2
	12 oz. (3/4 lb.)	267	15.1	19.7	86.8
	14 oz.	45	2.5	3.3	90.1
	16 oz. (1 lb.)	134	7.6	9.9	100.0
	Total	1358	76.9	100.0	
Missing	System	407	23.1		
Total		1765	100.0		

years holding license

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	52	2.9	3.0	3.0
	1	61	3.5	3.5	6.5
	2	1	.1	.1	6.5
	2	99	5.6	5.7	12.2
	3	83	4.7	4.8	17.0
	4	54	3.1	3.1	20.1
	5	66	3.7	3.8	23.9
	6	39	2.2	2.2	26.1
	7	38	2.2	2.2	28.3
	8	45	2.5	2.6	30.9
	9	21	1.2	1.2	32.1
	10	137	7.8	7.9	39.9
	11	13	.7	.7	40.7
	12	44	2.5	2.5	43.2
	13	22	1.2	1.3	44.5
	14	19	1.1	1.1	45.6
	15	79	4.5	4.5	50.1
	16	24	1.4	1.4	51.5
	17	22	1.2	1.3	52.7
	18	19	1.1	1.1	53.8
	19	15	.8	.9	54.7
	20	129	7.3	7.4	62.1
	21	16	.9	.9	63.0
	22	17	1.0	1.0	64.0
	23	20	1.1	1.1	65.1
	24	24	1.4	1.4	66.5
	25	91	5.2	5.2	71.7
	26	14	.8	.8	72.5
	27	18	1.0	1.0	73.6
	28	17	1.0	1.0	74.5
	29	16	.9	.9	75.4
	30	108	6.1	6.2	81.6
	31	16	.9	.9	82.6
	32	19	1.1	1.1	83.6
	33	10	.6	.6	84.2
	34	20	1.1	1.1	85.4
	35	50	2.8	2.9	88.2
	36	10	.6	.6	88.8
	37	7	.4	.4	89.2
	38	8	.5	.5	89.7
	39	5	.3	.3	90.0
	40	70	4.0	4.0	94.0
	41	7	.4	.4	94.4
	42	13	.7	.7	95.1
	43	7	.4	.4	95.5
	44	4	.2	.2	95.8
	45	24	1.4	1.4	97.1
	46	5	.3	.3	97.4
	47	5	.3	.3	97.7
	48	8	.5	.5	98.2
	49	3	.2	.2	98.3
	50	22	1.2	1.3	99.6
	51	1	.1	.1	99.7
	54	2	.1	.1	99.8
	55	2	.1	.1	99.9
	57	2	.1	.1	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

age respondent started to fish regularly

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	191	10.8	11.0	11.0
	1	3	.2	.2	11.1
	2	9	.5	.5	11.6
	3	15	.8	.9	12.5
	4	30	1.7	1.7	14.2
	5	110	6.2	6.3	20.5
	6	109	6.2	6.3	26.8
	7	74	4.2	4.2	31.0
	8	122	6.9	7.0	38.0
	9	37	2.1	2.1	40.2
	10	220	12.5	12.6	52.8
	11	14	.8	.8	53.6
	12	141	8.0	8.1	61.7
	13	44	2.5	2.5	64.2
	14	49	2.8	2.8	67.0
	15	63	3.6	3.6	70.6
	16	98	5.6	5.6	76.2
	17	15	.8	.9	77.1
	18	43	2.4	2.5	79.6
	19	20	1.1	1.1	80.7
	20	49	2.8	2.8	83.5
	21	32	1.8	1.8	85.4
	22	17	1.0	1.0	86.3
	23	12	.7	.7	87.0
	24	16	.9	.9	88.0
	25	28	1.6	1.6	89.6
	26	7	.4	.4	90.0
	27	7	.4	.4	90.4
	28	14	.8	.8	91.2
	29	2	.1	.1	91.3
	30	40	2.3	2.3	93.6
	31	2	.1	.1	93.7
	32	5	.3	.3	94.0
	33	3	.2	.2	94.1
	34	5	.3	.3	94.4
	35	17	1.0	1.0	95.4
	36	5	.3	.3	95.7
	37	3	.2	.2	95.9
	38	8	.5	.5	96.3
	39	3	.2	.2	96.5
	40	24	1.4	1.4	97.9
	41	2	.1	.1	98.0
	42	3	.2	.2	98.2
	43	3	.2	.2	98.3
	44	2	.1	.1	98.5
	45	7	.4	.4	98.9
	46	3	.2	.2	99.0
	47	3	.2	.2	99.2
	48	2	.1	.1	99.3
	50	3	.2	.2	99.5
	51	1	.1	.1	99.5
	55	1	.1	.1	99.6
	56	1	.1	.1	99.7
	60	2	.1	.1	99.8
	62	1	.1	.1	99.8
	63	2	.1	.1	99.9
	68	1	.1	.1	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

respondent has only fished occasionally

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1528	86.6	87.7	87.7
	only fished occasionally	214	12.1	12.3	100.0
	Total	1742	98.7	100.0	
Missing	System	23	1.3		
Total		1765	100.0		

member of fishing or sportsmen's club

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	1392	78.9	79.9	79.9
	yes	339	19.2	19.4	99.3
	blank	12	.7	.7	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

subscription to fishing/hunting/sportsmen's magazine

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	987	55.9	56.6	56.6
	yes	741	42.0	42.5	99.1
	blank	15	.8	.9	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

skill level in fishing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	none	1	.1	.1	.1
	novice	306	17.3	17.6	17.6
	intermediate	805	45.6	46.2	63.8
	advanced	542	30.7	31.1	94.9
	expert	67	3.8	3.8	98.7
	blank	22	1.2	1.3	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate bluegill or sunfish

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	917	52.0	52.6	52.6
	yes	826	46.8	47.4	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate smallmouth bass

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1569	88.9	90.0	90.0
	yes	174	9.9	10.0	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate coho salmon

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1690	95.8	97.0	97.0
	yes	53	3.0	3.0	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate drum (white perch)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1697	96.1	97.4	97.4
	yes	46	2.6	2.6	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate walleye

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1602	90.8	91.9	91.9
	yes	141	8.0	8.1	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate carp

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1732	98.1	99.4	99.4
	yes	11	.6	.6	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate catfish

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1274	72.2	73.1	73.1
	yes	469	26.6	26.9	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate rainbow trout / steelhead

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1680	95.2	96.4	96.4
	yes	63	3.6	3.6	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate chinook salmon

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1715	97.2	98.4	98.4
	yes	28	1.6	1.6	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate striped bass

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1685	95.5	96.7	96.7
	yes	58	3.3	3.3	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate largemouth bass

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1340	75.9	76.9	76.9
	yes	403	22.8	23.1	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate smelt

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1734	98.2	99.5	99.5
	yes	9	.5	.5	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate lake whitefish

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1738	98.5	99.7	99.7
	yes	5	.3	.3	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate crappie

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1240	70.3	71.1	71.1
	yes	503	28.5	28.9	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate yellow perch

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1610	91.2	92.4	92.4
	yes	133	7.5	7.6	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate northern pike

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1714	97.1	98.3	98.3
	yes	29	1.6	1.7	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate laketrout

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1717	97.3	98.5	98.5
	yes	26	1.5	1.5	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate white bass (silver)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1673	94.8	96.0	96.0
	yes	70	4.0	4.0	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate muskie

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1738	98.5	99.7	99.7
	yes	5	.3	.3	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

ate other type of fish

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1722	97.6	98.8	98.8
	Yes, other	21	1.2	1.2	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

source: state agency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1571	89.0	90.1	90.1
	yes	172	9.7	9.9	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

source of general fishing information: friend or family member

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	673	38.1	38.6	38.6
	yes	1070	60.6	61.4	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

source of general fishing information: Indiana fishing guide

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	976	55.3	56.0	56.0
	yes	767	43.5	44.0	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

source of general fishing information: newsletters from clubs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1565	88.7	89.8	89.8
	yes	178	10.1	10.2	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

source of general fishing information: newspaper or magazine

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1055	59.8	60.5	60.5
	yes	688	39.0	39.5	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

source of general fishing information: radio or television

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1469	83.2	84.3	84.3
	yes	274	15.5	15.7	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

source of general fishing information: word of mouth

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	722	40.9	41.4	41.4
	yes	1021	57.8	58.6	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

source of general fishing information: none

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1601	90.7	91.9	91.9
	yes	142	8.0	8.1	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

source of general fishing information: other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1646	93.3	94.9	94.9
	other	88	5.0	5.1	100.0
	Total	1734	98.2	100.0	
Missing	System	31	1.8		
Total		1765	100.0		

aware of advisories

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no, not aware	413	23.4	23.7	23.7
	yes, generally aware	612	34.7	35.1	58.8
	yes aware, certain fish and/or areas	691	39.2	39.6	98.5
	blank	27	1.5	1.5	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

follow advisory when eat fish

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	never	124	7.0	7.1	7.1
		57	3.2	3.3	10.4
	sometimes	234	13.3	13.4	23.8
		183	10.4	10.5	34.3
	always	742	42.0	42.6	76.9
	blank	403	22.8	23.1	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

follow advisory when cook fish

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	never	110	6.2	6.3	6.3
		44	2.5	2.5	8.8
	sometimes	147	8.3	8.4	17.3
		203	11.5	11.6	28.9
	always	796	45.1	45.7	74.6
	blank	443	25.1	25.4	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

learned about consumption advisories from state agency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1621	91.8	93.0	93.0
	yes	122	6.9	7.0	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

learned about consumption advisories from friend or family

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1372	77.7	78.7	78.7
	yes	371	21.0	21.3	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

learned about consumption advisories from fishing guide

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1075	60.9	61.7	61.7
	yes	668	37.8	38.3	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

learned about consumption advisories from newsletter from club

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1669	94.6	95.8	95.8
	yes	74	4.2	4.2	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

learned about consumption advisories from newspaper or magazine

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	1026	58.1	58.9	58.9
	yes	717	40.6	41.1	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

learned about consumption advisories from other source

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1687	95.6	97.5	97.5
	yes	44	2.5	2.5	100.0
	Total	1731	98.1	100.0	
Missing	System	34	1.9		
Total		1765	100.0		

learned about consumption advisories from radio and television

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1407	79.7	80.7	80.7
	yes	336	19.0	19.3	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

learned about consumption advisories from word of mouth

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1318	74.7	75.6	75.6
	yes	425	24.1	24.4	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

None: did not learn about consumption advisories from any source

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	1696	96.1	97.3	97.3
	yes	47	2.7	2.7	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	1425	80.7	81.8	81.8
	female	316	17.9	18.1	99.9
	blank	2	.1	.1	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Asian American or Pacific Islander	10	.6	.6	.6
	White, not Hispanic	1648	93.4	94.5	95.1
	Hispanic American	18	1.0	1.0	96.2
	African American	12	.7	.7	96.8
	Native American Indian	12	.7	.7	97.5
	Mixed Race	16	.9	.9	98.5
	Other	13	.7	.7	99.2
	no response	14	.8	.8	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	under \$5,000	31	1.8	1.8	1.8
	\$5,000-9,999	50	2.8	2.9	4.6
	\$10,000-14,999	63	3.6	3.6	8.3
	\$15,000-24,999	200	11.3	11.5	19.7
	\$25,000-34,999	283	16.0	16.2	36.0
	\$35,000-49,999	351	19.9	20.1	56.1
	\$50,000-74,999	401	22.7	23.0	79.1
	over \$75,000	192	10.9	11.0	90.1
	no response	172	9.7	9.9	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

years of education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Grade School	1	.1	.1	.1
	3	3	.2	.2	.2
	6	2	.1	.1	.3
	7	1	.1	.1	.4
	8	29	1.6	1.7	2.1
	high school	31	1.8	1.8	3.8
	10	54	3.1	3.1	6.9
	11	55	3.1	3.2	10.1
	12	807	45.7	46.3	56.4
	college	161	9.1	9.2	65.6
	14	193	10.9	11.1	76.7
	15	73	4.1	4.2	80.9
	16	141	8.0	8.1	89.0
	17	168	9.5	9.6	98.6
	99	24	1.4	1.4	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	blank	6	.3	.3	.3
	17	2	.1	.1	.5
	18	12	.7	.7	1.1
	19	15	.8	.9	2.0
	20	11	.6	.6	2.6
	21	20	1.1	1.1	3.8
	22	15	.8	.9	4.6
	23	17	1.0	1.0	5.6
	24	25	1.4	1.4	7.1
	25	20	1.1	1.1	8.2
	26	27	1.5	1.5	9.8
	27	34	1.9	2.0	11.7
	28	37	2.1	2.1	13.8
	29	25	1.4	1.4	15.3
	30	41	2.3	2.4	17.6
	31	30	1.7	1.7	19.3
	32	42	2.4	2.4	21.7
	33	42	2.4	2.4	24.2
	34	48	2.7	2.8	26.9
	35	41	2.3	2.4	29.3
	36	46	2.6	2.6	31.9
	37	49	2.8	2.8	34.7
	38	57	3.2	3.3	38.0
	39	49	2.8	2.8	40.8
	40	57	3.2	3.3	44.1
	41	49	2.8	2.8	46.9
	42	38	2.2	2.2	49.1
	43	59	3.3	3.4	52.4
	44	56	3.2	3.2	55.7
	45	51	2.9	2.9	58.6
	46	33	1.9	1.9	60.5
	47	52	2.9	3.0	63.5
	48	45	2.5	2.6	66.0
	49	40	2.3	2.3	68.3
	50	60	3.4	3.4	71.8
	51	40	2.3	2.3	74.1
	52	43	2.4	2.5	76.5
	53	23	1.3	1.3	77.9
	54	39	2.2	2.2	80.1
	55	40	2.3	2.3	82.4
	56	29	1.6	1.7	84.1
	57	34	1.9	2.0	86.0
	58	25	1.4	1.4	87.4
	59	27	1.5	1.5	89.0
	60	29	1.6	1.7	90.6
	61	24	1.4	1.4	92.0
	62	27	1.5	1.5	93.6
	63	28	1.6	1.6	95.2
	64	28	1.6	1.6	96.8
	65	33	1.9	1.9	98.7
	66	11	.6	.6	99.3
	67	6	.3	.3	99.7
	68	3	.2	.2	99.8
	69	2	.1	.1	99.9
	80	1	.1	.1	100.0
	Total	1743	98.8	100.0	
Missing	System	22	1.2		
Total		1765	100.0		

years lived in Indiana

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	.1	.1	.1
	2	27	1.5	1.5	1.7
	3	23	1.3	1.3	3.0
	4	17	1.0	1.0	4.0
	5	8	.5	.5	4.4
	6	8	.5	.5	4.9
	7	11	.6	.6	5.5
	8	15	.8	.9	6.4
	9	7	.4	.4	6.8
	10	23	1.3	1.3	8.1
	11	5	.3	.3	8.4
	12	12	.7	.7	9.1
	13	10	.6	.6	9.6
	14	2	.1	.1	9.8
	15	7	.4	.4	10.2
	16	4	.2	.2	10.4
	17	6	.3	.3	10.7
	18	19	1.1	1.1	11.8
	19	20	1.1	1.1	13.0
	20	29	1.6	1.7	14.6
	21	27	1.5	1.5	16.2
	22	20	1.1	1.1	17.3
	23	25	1.4	1.4	18.8
	24	29	1.6	1.7	20.4
	25	38	2.2	2.2	22.6
	26	34	1.9	2.0	24.6
	27	38	2.2	2.2	26.7
	28	35	2.0	2.0	28.7
	29	25	1.4	1.4	30.2
	30	67	3.8	3.8	34.0
	31	30	1.7	1.7	35.7
	32	35	2.0	2.0	37.8
	33	38	2.2	2.2	39.9
	34	36	2.0	2.1	42.0
	35	48	2.7	2.8	44.8
	36	36	2.0	2.1	46.8
	37	38	2.2	2.2	49.0
	38	56	3.2	3.2	52.2
	39	41	2.3	2.4	54.6
	40	74	4.2	4.2	58.8
	41	38	2.2	2.2	61.0
	42	33	1.9	1.9	62.9
	43	46	2.6	2.6	65.5
	44	40	2.3	2.3	67.8
	45	54	3.1	3.1	70.9
	46	25	1.4	1.4	72.3
	47	31	1.8	1.8	74.1
	48	34	1.9	2.0	76.1
	49	22	1.2	1.3	77.3
	50	58	3.3	3.3	80.7
	51	31	1.8	1.8	82.4
	52	25	1.4	1.4	83.9
	53	14	.8	.8	84.7
	54	25	1.4	1.4	86.1
	55	25	1.4	1.4	87.6
	56	19	1.1	1.1	88.6

57	23	1.3	1.3	90.0
58	21	1.2	1.2	91.2
59	15	.8	.9	92.0
60	25	1.4	1.4	93.5
61	18	1.0	1.0	94.5
62	21	1.2	1.2	95.7
63	19	1.1	1.1	96.8
64	15	.8	.9	97.6
65	21	1.2	1.2	98.9
66	7	.4	.4	99.3
67	3	.2	.2	99.4
68	1	.1	.1	99.5
69	1	.1	.1	99.5
80	1	.1	.1	99.6
blank	7	.4	.4	100.0
Total	1743	98.8	100.0	
Missing System	22	1.2		
Total	1765	100.0		

county					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Adams	17	1.0	1.0	1.0
	Allen	83	4.7	4.8	5.7
	Bartholomew	20	1.1	1.1	6.9
	Benton	2	.1	.1	7.0
	Blackford	9	.5	.5	7.5
	Boone	11	.6	.6	8.1
	Brown	9	.5	.5	8.7
	Carroll	16	.9	.9	9.6
	Cass	16	.9	.9	10.5
	Clark	17	1.0	1.0	11.5
	Clay	5	.3	.3	11.8
	Clinton	4	.2	.2	12.0
	Crawford	2	.1	.1	12.1
	Davies	15	.8	.9	13.0
	Dearborn	15	.8	.9	13.8
	Decatur	7	.4	.4	14.2
	Dekalb	18	1.0	1.0	15.3
	Delaware	38	2.2	2.2	17.4
	Dubois	14	.8	.8	18.2
	Elkhart	49	2.8	2.8	21.1
	Fayette	7	.4	.4	21.5
	Floyd	32	1.8	1.8	23.3
	Fountain	5	.3	.3	23.6
	Franklin	11	.6	.6	24.2
	Fulton	2	.1	.1	24.3
	Gibson	15	.8	.9	25.2
	Grant	24	1.4	1.4	26.6
	Greene	12	.7	.7	27.3
	Hamilton	44	2.5	2.5	29.8
	Hancock	17	1.0	1.0	30.8
	Harrison	9	.5	.5	31.3
	Hendricks	32	1.8	1.8	33.1
	Henry	18	1.0	1.0	34.1
	Howard	31	1.8	1.8	35.9
	Huntington	9	.5	.5	36.4
	Jackson	19	1.1	1.1	37.5
	Jasper	14	.8	.8	38.3
	Jay	9	.5	.5	38.8
	Jefferson	14	.8	.8	39.6
	Jennings	9	.5	.5	40.2

Johnson	29	1.6	1.7	41.8
Knox	16	.9	.9	42.7
Kosciusko	43	2.4	2.5	45.2
LaGrange	15	.8	.9	46.1
Lake	116	6.6	6.7	52.7
LaPorte	22	1.2	1.3	54.0
Lawrence	12	.7	.7	54.7
Madison	59	3.3	3.4	58.1
Marion	137	7.8	7.9	65.9
Marshall	17	1.0	1.0	66.9
Martin	5	.3	.3	67.2
Miami	19	1.1	1.1	68.3
Monroe	30	1.7	1.7	70.0
Montgomery	9	.5	.5	70.5
Morgan	23	1.3	1.3	71.8
Newton	6	.3	.3	72.2
Noble	26	1.5	1.5	73.7
Ohio	6	.3	.3	74.0
Orange	6	.3	.3	74.4
Owen	8	.5	.5	74.8
Parke	5	.3	.3	75.1
Perry	7	.4	.4	75.5
Pike	10	.6	.6	76.1
Porter	53	3.0	3.0	79.1
Posey	9	.5	.5	79.6
Pulaski	7	.4	.4	80.0
Putnam	8	.5	.5	80.5
Randolph	10	.6	.6	81.1
Ripley	6	.3	.3	81.4
Rush	4	.2	.2	81.6
St. Joseph	32	1.8	1.8	83.5
Scott	7	.4	.4	83.9
Shelby	9	.5	.5	84.4
Spencer	1	.1	.1	84.5
Starke	7	.4	.4	84.9
Steuben	26	1.5	1.5	86.3
Sullivan	5	.3	.3	86.6
Switzerland	2	.1	.1	86.7
Tippecanoe	38	2.2	2.2	88.9
Tipton	4	.2	.2	89.2
Union	3	.2	.2	89.3
Vanderburgh	44	2.5	2.5	91.9
Vermillion	7	.4	.4	92.3
Vigo	17	1.0	1.0	93.2
Wabash	24	1.4	1.4	94.6
Warren	3	.2	.2	94.8
Warrick	21	1.2	1.2	96.0
Washington	14	.8	.8	96.8
Wayne	27	1.5	1.5	98.3
Wells	3	.2	.2	98.5
White	11	.6	.6	99.1
Whitley	15	.8	.9	100.0
Total	1743	98.8	100.0	
Missing	System	22	1.2	
Total	1765	100.0		

**Appendix VII. Survey Instrument
and Photographs of Fish Portions**

Appendix VIII. Human Subjects Approval Form